

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference G2224 PCT S3	FOR FURTHER ACTION		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/EP 03/09356	International filing date (day/month/year) 22/08/2003	(Earliest) Priority Date (day/month/year) 23/08/2002	
Applicant EPIDAUROS BIOTECHNOLOGIE AG			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☒ Unity of invention is lacking (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1 _____
☐ None of the figures.

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-41 (partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-41 (partially)

subject-matter related to SEQ IDs 4 and 28, and to the polymorphism position 109130.

2. claims: 1-41 (partially)

subject-matter related to SEQ ID 5 and to the polymorphism position 109211

3. claims: 1-41 (partially)

subject-matter related to SEQ ID 6 and to the polymorphism position 119220

4. claims: 1-41 (partially)

subject-matter related to SEQ ID 7 and to the polymorphism position 123551

5. claims: 1-41 (partially)

subject-matter related to SEQ ID 8 and to the polymorphism position 126806

6. claims: 1-41 (partially)

subject-matter related to SEQ ID 9 and to the polymorphism position 126846

7. claims: 1-41 (partially)

subject-matter related to SEQ ID 10 and to the polymorphism positions 126863 to 126865

8. claims: 1-41 (partially)

subject-matter related to SEQ ID 11 and to the polymorphism position 126922

9. claims: 1-41 (partially)

subject-matter related to SEQ ID 12 and to the polymorphism position 126915

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

10. claims: 1-41 (partially)

subject-matter related to SEQ ID 13 and to the polymorphism
position 130672

11. claims: 1-41 (partially)

subject-matter related to SEQ ID 14 and to the polymorphism
position 141819

12. claims: 1-41 (partially)

subject-matter related to SEQ ID 15 and to the polymorphism
position 142951

13. claims: 1-41 (partially)

subject-matter related to SEQ ID 16 and to the polymorphism
position 141961

14. claims: 1-41 (partially)

subject-matter related to SEQ ID 17 and to the polymorphism
position 142993

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A. CLASSIFICATION OF SUBJECT MATTER		
IPC 7	C07K14/47 C07K16/18	C12Q1/68 A01K67/027
G01N33/50 C12N15/12	G01N33/53 A61K48/00	A61K38/17
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) IPC 7 C07K C12Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, MEDLINE, EMBASE, BIOSIS, WPI Data, EMBL		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SHU Y ET AL: "Identification and functional characterization of hOCT1 polymorphisms in ethnically diverse populations" CLINICAL PHARMACOLOGY AND THERAPEUTICS, vol. 71, no. 2, February 2002 (2002-02), page P73, XP009024430 Annual Meeting of the American Society for Clinical Pharmacology and Therapeutics; Atlanta, Georgia, USA; March 24-27, 2002 ISSN: 0009-9236 abstract ----- -/--	1-41
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents:		
A document defining the general state of the art which is not considered to be of particular relevance		
E earlier document but published on or after the international filing date		
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		
O document referring to an oral disclosure, use, exhibition or other means		
P document published prior to the international filing date but later than the priority date claimed		
T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention		
X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone		
Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.		
& document member of the same patent family		
Date of the actual completion of the international search 26 January 2004		Date of mailing of the international search report 19.04.04
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Loubradou, G

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE EMBL 'Online! 23 March 1998 (1998-03-23), SULTON ET AL.: "Homo sapiens PAC clone RP-5-844F9 from 7, complete sequence" XP002267877 Database accession no. ac004453 The sequence comprises SEQ ID 4 abstract</p> <p>-----</p>	1,3,4,6, 8
X	<p>DATABASE EMBL 'Online! 10 September 2001 (2001-09-10), WATERSON: "Homo sapiens chromosome UNK clone RP11-112b7" XP002267878 Database accession no. ac093630 The sequence of the complementary strand comprises SEQ ID 4. abstract</p> <p>-----</p>	1,3,4,6, 8
X	<p>DATABASE EMBL 'Online! 6 February 2001 (2001-02-06), BIRREN ET AL.: "Mus musculus chromosome 12 clone RP23-283B7 map 12" XP002267879 Database accession no. ac109228 The sequence of the complementary strand comprises SEQ ID 4. abstract</p> <p>-----</p>	1,3,4,6, 8
A	<p>WO 02/059142 A (MORNHINWEG ESTHER ;HOFFMEYER SVEN (DE); BRINKMANN ULRICH (DE); EPI) 1 August 2002 (2002-08-01) claims 1-42</p> <p>-----</p>	
A	<p>DRESSER M J LEABMAN M K GIACOMINI K M: "Transporters involved in the elimination of drugs in the kidney: organic anion transporters and organic cation transporters" JOURNAL OF PHARMACEUTICAL SCIENCES, AMERICAN PHARMACEUTICAL ASSOCIATION. WASHINGTON, US, vol. 90, no. 4, April 2001 (2001-04), pages 397-421, XP002959943 ISSN: 0022-3549 cited in the application page 415 second half of the paragraph bridging left- and right-hand columns</p> <p>-----</p> <p style="text-align: center;">-/--</p>	

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	KERB REINHOLD ET AL: "Identification of genetic variations of the human organic cation transporter hOCT1 and their functional consequences." PHARMACOGENETICS, vol. 12, no. 8, November 2002 (2002-11), pages 591-595, XP009024431 ISSN: 0960-314X the whole document ✓.	1-41
P,X	SHU YAN ET AL: "Evolutionary conservation predicts function of variants of the human organic cation transporter, OCT1." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. UNITED STATES 13 MAY 2003, vol. 100, no. 10, 13 May 2003 (2003-05-13), pages 5902-5907, XP002267876 ISSN: 0027-8424 the whole document ✓.	1-41

Information on patent family members

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Form PCT/ISA/210 (patent family annex) (January 2004)